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## NOTICE OF ALLOWANCE AND FEE(S) DUE

7055 7590 09/15/2010

GREENBLUM & BERNSTEIN, P.L.C.  
1950 ROLAND CLARKE PLACE  
RESTON, VA 20191

EXAMINER

AHMED, MASUD

ART UNIT

PAPER NUMBER

3714

DATE MAILED: 09/15/2010

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/759,133

01/20/2004

Kazumi Kobayashi

P23847

6663

TITLE OF INVENTION: VIRTUAL CAMERA CONTROL METHOD IN THREE-DIMENSIONAL VIDEO GAME

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1510	\$300	\$0	\$1810	12/15/2010

**THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.**

**THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.**

### HOW TO REPLY TO THIS NOTICE:

#### I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

**IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.**

# **PART B - FEE(S) TRANSMITTAL**

**Complete and send this form, together with applicable fee(s), to: Mail Mail Stop ISSUE FEE  
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or Fax (571)-273-2885**

**INSTRUCTIONS:** This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

7055 7590 09/15/2010  
**GREENBLUM & BERNSTEIN, P.L.C.**  
1950 ROLAND CLARKE PLACE  
RESTON, VA 20191

## **Certificate of Mailing or Transmission**

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/759,133	01/20/2004	Kazumi Kobayashi	P23847	6663
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TITLE OF INVENTION: VIRTUAL CAMERA CONTROL METHOD IN THREE-DIMENSIONAL VIDEO GAME

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
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nonprovisional	NO	\$1510	\$300	\$0	\$1810	12/15/2010
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EXAMINER	ART UNIT	CLASS-SUBCLASS
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AHMED, MASUD	3714	463-037000
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1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

- (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, 1 \_\_\_\_\_
- (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2 \_\_\_\_\_
- 3 \_\_\_\_\_

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee
- ☐ Publication Fee (No small entity discount permitted)
- ☐ Advance Order - # of Copies \_\_\_\_\_

4b. Payment of Fee(s); (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.
- ☐ Payment by credit card. Form PTO-2038 is attached.
- ☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number \_\_\_\_\_ (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- ☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature \_\_\_\_\_

Date \_\_\_\_\_

Typed or printed name \_\_\_\_\_

Registration No. \_\_\_\_\_

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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10/759,133	01/20/2004	Kazumi Kobayashi	P23847	6663
7055	7590	09/15/2010	EXAMINER	
GREENBLUM & BERNSTEIN, P.L.C. 1950 ROLAND CLARKE PLACE RESTON, VA 20191			AHMED, MASUD	
			ART UNIT	PAPER NUMBER
			3714	
DATE MAILED: 09/15/2010				

## Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 1272 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 1272 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/759,133	KOBAYASHI, KAZUMI	
	<b>Examiner</b>	<b>Art Unit</b>	
	MASUD AHMED	3714	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 06/14/2010.
2. ☒ The allowed claim(s) is/are 1-26.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
  - \* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

**Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |   |
|---|---|
| <ol style="list-style-type: none"> <li>1. <input type="checkbox"/> Notice of References Cited (PTO-892)</li> <li>2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)</li> <li>3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),<br/>Paper No./Mail Date _____</li> <li>4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br/>of Biological Material</li> </ol> | <ol style="list-style-type: none"> <li>5. <input type="checkbox"/> Notice of Informal Patent Application</li> <li>6. <input type="checkbox"/> Interview Summary (PTO-413),<br/>Paper No./Mail Date _____.</li> <li>7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment</li> <li>8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance</li> <li>9. <input type="checkbox"/> Other _____.</li> </ol> |
|---|---|

/M. A./  
Examiner, Art Unit 3714

/Peter DungBa Vo/  
Supervisory Patent Examiner, Art Unit 3714

***Allowance***

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with James Bonnamy on 08/31/2010.

Please amend the claims as follows:

Please replace claims 1, 18, 22 and 26 with the following:-

**Claim 1**, A three-dimensional video game apparatus that perspective-transforms a virtual three-dimensional space where multiple characters exist onto a virtual screen based upon a virtual camera having a viewpoint position moved in response to positions of the multiple characters, comprising:

- a character mover that moves at least one of the characters in the virtual three-dimensional space;
- a central position calculator that calculates a central position of the characters in the virtual three-dimensional space;
- a temporary point setter that sets multiple temporary points at once in the virtual three dimensional space with reference to the calculated central position;
- a temporary viewpoint position setter that sets a temporary viewpoint position on each straight line, connecting each of the temporary points to the central position, where all of

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the characters can be projected on the virtual screen with a predetermined visual angle;

a distance calculator that calculates a distance between each of the set temporary

viewpoint positions and the calculated central position;

a viewpoint position evaluator that evaluates each temporary viewpoint position based on each calculated distance;

a viewpoint position selector that selects a position where the viewpoint of the virtual camera should be moved among the temporary viewpoint positions based on the evaluation result;

a viewpoint position mover that moves the viewpoint position of the virtual camera to the selected position; and

a perspective transformer that perspective-transforms the three-dimensional space onto the virtual screen based upon the virtual camera where the viewpoint position is moved:

wherein the temporary points are set around the central position and a direction to each of the temporary points from the central position is predetermined based on polar coordinates of the central position.

**Claim 18**, A three-dimensional video game apparatus that perspective-transforms a virtual three-dimensional space where multiple characters exist onto a virtual screen based upon a virtual camera having a viewpoint position moved in response to positions of the multiple characters, comprising a memory that stores a game

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program, a processor that executes said game program, and a displayer that displays a processing result of said processor, wherein the game program is stored in said memory and causes said processor to execute:

moving at least one of the characters in the virtual three-dimensional space;

calculating a central position of the characters in the virtual three-dimensional space;

setting multiple temporary points at once in the virtual three-dimensional space with reference to the calculated central position;

setting a temporary viewpoint position on each straight line, connecting each of the temporary points to the central position, where all of the characters can be projected on the virtual screen with a predetermined visual angle;

calculating a distance between each of the set temporary viewpoint positions and the calculated central position;

evaluating each temporary viewpoint position based on each calculated distance;

selecting a position where the viewpoint of the virtual camera should be moved among the temporary viewpoint positions based on the evaluation result;

moving the viewpoint position of the virtual camera to the selected position; and

perspective-transforming the three-dimensional space onto the virtual screen based upon the virtual camera where the viewpoint position is moved:

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wherein the temporary points are set around the central position and a direction to each of the temporary points from the central position is predetermined based on polar coordinates of the central position.

**Claim 22**, A computer-implemented method for controlling a viewpoint position of a virtual camera based on positions of multiple characters existing in a virtual three dimensional space in a three-dimensional video game that perspective-transforms the virtual three-dimensional space onto a virtual screen based upon the virtual camera, comprising:

moving, with a computer, at least one of the characters in the virtual three-dimensional space;

calculating, with the computer, a central position of the characters in the virtual three dimensional space;

setting, with the computer, multiple temporary points at once in the virtual three dimensional space with reference to the calculated central position;

setting, with the computer, a temporary viewpoint position on each straight line, connecting each of the temporary points to the central position, where all of the characters can be projected on the virtual screen with a predetermined visual angle;

calculating, with the computer, a distance between each of the set temporary viewpoint positions and the calculated central position;



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evaluating, with the computer, each temporary viewpoint position based on each calculated distance;

selecting, with the computer, a position where the viewpoint of the virtual camera should be moved among the temporary viewpoint positions based on the evaluation result;

moving, with the computer, the viewpoint position of the virtual camera to the selected position; and

perspective-transforming, with the computer, the three-dimensional space onto the virtual screen based upon the virtual camera where the viewpoint position is moved:

wherein the temporary points are set around the central position and a direction to each of the temporary points from the central position is predetermined based on polar coordinates of the central position.

**Claim 26**, A non-transitory computer-readable storage medium on which a game program for executing a video game that perspective-transforms a virtual three-dimensional space where multiple characters exist onto a virtual screen based upon a virtual camera having a viewpoint position moved in response to positions of the multiple characters, the game program causing a computer apparatus to execute:

moving at least one of the characters in the virtual three-dimensional space;

calculating a central position of the characters in the virtual three-dimensional space;

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setting multiple temporary points at once in the virtual three-dimensional space with reference to the calculated central position;

setting a temporary viewpoint position on each straight line, connecting each of the temporary points to the central position, where all of the characters can be projected on the virtual screen with a predetermined visual angle;

calculating a distance between each of the set temporary viewpoint positions and the calculated central position;

evaluating each temporary viewpoint position based on each calculated distance;

selecting a position where the viewpoint of the virtual camera should be moved among the temporary viewpoint positions based on the evaluation result;

moving the viewpoint position of the virtual camera to the selected position; and perspective-transforming the three-dimensional space onto the virtual screen based upon the virtual camera where the viewpoint position is moved,

wherein the temporary points are set around the central position and a direction to each of the temporary points from the central position is predetermined based on polar coordinates of the central position.

2. The following is an examiner's statement of reasons for allowance: Applicant's invention is designed to be used in a video game's virtual camera movement where

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various virtual playgrounds of the video games is covered by the various camera settings angle in an efficient manner.

3. Prior art of record specifically Kitao '972 and Yamada '422 fails to disclose either explicitly or in combination the following limitations:

“setting multiple temporary points at once in the virtual three-dimensional space with reference to the calculated central position;

setting a temporary viewpoint position on each straight line, connecting each of the temporary points to the central position, where all of the characters can be projected on the virtual screen with a predetermined visual angle;

calculating a distance between each of the set temporary viewpoint positions and the calculated central position;

evaluating each temporary viewpoint position based on each calculated distance;

selecting a position where the viewpoint of the virtual camera should be moved among the temporary viewpoint positions based on the evaluation result”.

In other words the independent claims as claimed and illustrated on FIG 7A-7C below of the present application generally recite that *multiple* temporary points are set about the central position, that *multiple* straight lines interconnect the *multiple* temporary points with the central position, and that a temporary viewpoint position is set on each line where all of the characters can be projected on the virtual screen with a predetermined visual angle; Since the independent claims of the present application generally recite

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that *multiple* temporary viewpoint positions are set, the independent claims further recite that a distance is calculated and evaluated from each of the *multiple* temporary viewpoint positions to the central position, and that the viewpoint position is moved to one of the *multiple* temporary viewpoint positions based on the results of the evaluation.

FIG.7A



FIG.7B

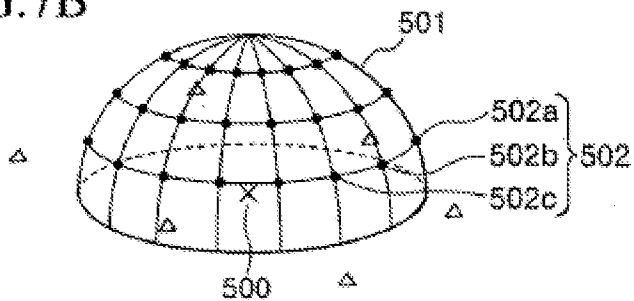
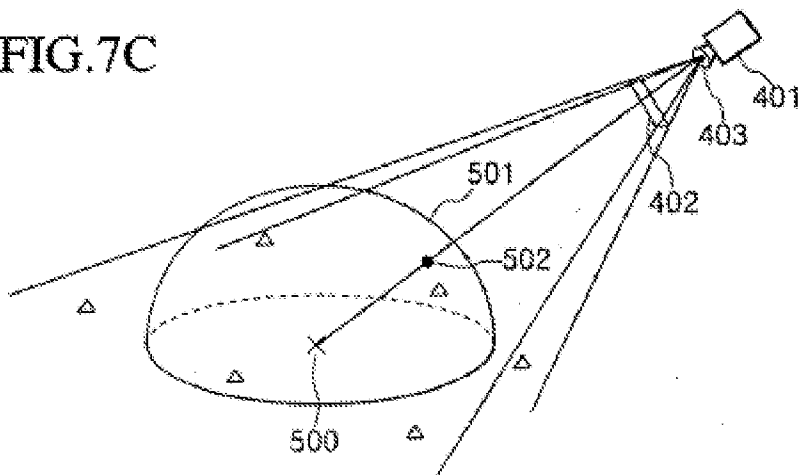


FIG.7C



Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

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accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MASUD AHMED whose telephone number is (571)270-1315. The examiner can normally be reached on Mon-Fri 10:00am-7:00pm, Alt Fri, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on 571 272 4690. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/M. A./  
Examiner, Art Unit 3714  
/Peter DungBa Vo/

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Supervisory Patent Examiner, Art Unit 3714